

# F191A Correlation Report

## General information

- Session info: <http://www3.mpifr-bonn.mpg.de/div/vlbi/globalmm/>
- Station feedback: [http://www3.mpifr-bonn.mpg.de/div/vlbi/globalmm/sessions/apr19/feedback\\_apr19.asc](http://www3.mpifr-bonn.mpg.de/div/vlbi/globalmm/sessions/apr19/feedback_apr19.asc)

## Purpose

- 4 Gbps test of the GMVA.
- For setup details see: [4GbpsTest Page](#)

## Fringes

Scan 7, 3C454.3 all baselines, including autocorrns, 32MHz bands: [No0007\\_all.pdf](#)

Scan 7, 3C454.3, baselines including only EVN stations: [f191a\\_No0007\\_3C454.3\\_EVN.pdf](#)

Scan 7, 3C454.3, baselines including only VLBA stations: [f191a\\_No0007\\_3C454.3\\_VLBA.pdf](#)

Scan 7, 3C454.3. baselines including an EVN and a VLBA station:  
[f191a\\_No0007\\_3C454.3\\_mixed\\_EVN\\_VLBA.pdf](#)

... same, but fringes searched for each of 16 channels separately:

[No0007\\_ch\\_a.pdf](#), [No0007\\_ch\\_b.pdf](#), [No0007\\_ch\\_c.pdf](#), [No0007\\_ch\\_d.pdf](#),

[No0007\\_ch\\_e.pdf](#), [No0007\\_ch\\_f.pdf](#), [No0007\\_ch\\_g.pdf](#), [No0007\\_ch\\_h.pdf](#),

[No0007\\_ch\\_i.pdf](#), [No0007\\_ch\\_j.pdf](#), [No0007\\_ch\\_k.pdf](#), [No0007\\_ch\\_l.pdf](#),

[No0007\\_ch\\_m.pdf](#), [No0007\\_ch\\_n.pdf](#), [No0007\\_ch\\_o.pdf](#), [No0007\\_ch\\_p.pdf](#).

For this scan, SNRs and amplitudes of EfPv, EfP3, OnPv and OnP3 baselines compared:  
[EfOnPvP3\\_by\\_chan.pdf](#)

Station	Code	Fringes	Plots	Comments
Ef	B	Yes	Europe only: <a href="#">No0007_B.pdf</a> , also see plot collections before the table	
Pv	P	Yes	Europe only: <a href="#">No0007_P.pdf</a> , also see plot collections before the table	Pico Veleta DBBC2
P3	i	Yes	Europe only: <a href="#">No0007_i.pdf</a> , also see plot collections before the table	Pico Veleta DBBC3
Ys	Y	Yes	Europe only: <a href="#">No0007_Y.pdf</a> , also see plot collections before the table	

Station	Code	Fringes	Plots	Comments
On	X	Yes	Europe only: <a href="#">No0007 X.pdf</a> , also see plot collections before the table	
Mh	Z	Yes	Europe only: <a href="#">No0007 Z.pdf</a> , also see plot collections before the table	
Br	b	Yes	<a href="#">f191a_No0007_3C454.3_bl_LL.pdf</a> , <a href="#">f191a_No0007_3C454.3_bl_LR.pdf</a> , <a href="#">f191a_No0007_3C454.3_bl_RL.pdf</a> , <a href="#">f191a_No0007_3C454.3_bl_RR.pdf</a>  <a href="#">f191a_No0007_3C454.3_bo_LL.pdf</a> , <a href="#">f191a_No0007_3C454.3_bo_RR.pdf</a> , no LR or RL fringes  also see plot collections before the table	
Fd	f	Yes	see plot collections before the table	
Kp	k	Yes	<a href="#">f191a_No0007_3C454.3_kp_LL.pdf</a> , <a href="#">f191a_No0007_3C454.3_kp_LR.pdf</a> , <a href="#">f191a_No0007_3C454.3_kp_RL.pdf</a> , <a href="#">f191a_No0007_3C454.3_kp_RR.pdf</a>  also see plot collections before the table	
La	l	Yes	<a href="#">f191a_No0007_3C454.3_bl_LL.pdf</a> , <a href="#">f191a_No0007_3C454.3_bl_LR.pdf</a> , <a href="#">f191a_No0007_3C454.3_bl_RL.pdf</a> , <a href="#">f191a_No0007_3C454.3_bl_RR.pdf</a>  <a href="#">f191a_No0007_3C454.3_lo_LL.pdf</a> , <a href="#">f191a_No0007_3C454.3_lo_LR.pdf</a> , <a href="#">f191a_No0007_3C454.3_lo_RL.pdf</a> , <a href="#">f191a_No0007_3C454.3_lo_RR.pdf</a>  also see plot collections before the table	
Mk	m			
Nl	n			
Ov	o	Yes	<a href="#">f191a_No0007_3C454.3_bo_LL.pdf</a> , <a href="#">f191a_No0007_3C454.3_bo_RR.pdf</a> , no LR or RL fringes  <a href="#">f191a_No0007_3C454.3_lo_LL.pdf</a> , <a href="#">f191a_No0007_3C454.3_lo_LR.pdf</a> , <a href="#">f191a_No0007_3C454.3_lo_RL.pdf</a> , <a href="#">f191a_No0007_3C454.3_lo_RR.pdf</a>  also see plot collections before the table	

Station	Code	Fringes	Plots	Comments
Pt	p	Yes	<a href="#">f191a_No0007_3C454.3_kp_LL.pdf</a> , <a href="#">f191a_No0007_3C454.3_kp_LR.pdf</a> , <a href="#">f191a_No0007_3C454.3_kp_RL.pdf</a> , <a href="#">f191a_No0007_3C454.3_kp_RR.pdf</a> also see plot collections before the table	
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## Notes

- Data format VLBA: INTERLACEDVDIF/0:1:2:3:4:5:6:7/5032/2
- Data format Pv, Ef, On: DBBC2-astro
- Data format Ys, Mh: DBBC2-astro2
- Data format P3: BBC1-U,BBC1-L,BBC2-U,BBC2-L,....
- P3: Fringe SNR generally lower than with Pv-DBBC2. This is due to phase jumps between the subbands which can be corrected by applying manual phasecal. If applied DBBC2 and DBBC3 fringe SNR is comparable.
- P3: There is a drop in amplitude on BBCs 5-8 compared to BBC 1-4 in LCP (only visible in the plots containing all 16x32channels). This needs to be checked during the next test observations. A possible explanation would be that AGC was accidentally disabled for those BBCs.
- Data weights for VLBA stations < 1.000

```
30.83%  0.917 1.000 0.816 0.890 0.895 1.000 1.000 0.924 1.000 1.000
0.882 1.000
```

```
ERROR   Lost Sync on segment 0! Will attempt to resync. Deltatime was
-0.498s
```

```
Thu Sep 12 14:01:32 2019 MPI[ 6] io02          f191a_7          DEBUG
Corrday was 58577, corrsec was 46500. MJD was 58577, sec was 46589>
Readseconds was 88.
```

**vdifxcontinuitycheck shows thread alignment jumps occasionally:**

```
Thread 7 Second 8081715 : 12800 frames : #0--#12799 : 0 lost, 0
out-of-order, 0 invalid, 0 dup, of 12800 total
Threads alignment      : 0[+0] 1[+1] 2[+2] 3[+3] 4[+4] 5[+5] 6[+6]
7[+7] frames
Thread 1 Second 8081716 : 12800 frames : #0--#12799 : 0 lost, 0
out-of-order, 0 invalid, 0 dup, of 12800 total
Thread 3 Second 8081716 : 12800 frames : #0--#12799 : 0 lost, 0
out-of-order, 0 invalid, 0 dup, of 12800 total
Thread 5 Second 8081716 : 12800 frames : #0--#12799 : 0 lost, 0
out-of-order, 0 invalid, 0 dup, of 12800 total
Thread 7 Second 8081716 : 12800 frames : #0--#12799 : 0 lost, 0
out-of-order, 0 invalid, 0 dup, of 12800 total
Thread 0 Second 8081716 : 12800 frames : #0--#12799 : 0 lost, 0
out-of-order, 0 invalid, 0 dup, of 12800 total
```

```

Thread 2 Second 8081716 : 12800 frames : #0--#12799 : 0 lost, 0
out-of-order, 0 invalid, 0 dup, of 12800 total
Thread 4 Second 8081716 : 12800 frames : #0--#12799 : 0 lost, 0
out-of-order, 0 invalid, 0 dup, of 12800 total
Thread 6 Second 8081716 : 12800 frames : #0--#12799 : 0 lost, 0
out-of-order, 0 invalid, 0 dup, of 12800 total
Threads alignment      : 0[+0] 1[-268] 2[+1] 3[-267] 4[+4] 5[-266]
6[+5] 7[-265] frames
Thread 1 Second 8081717 : 12800 frames : #0--#12799 : 0 lost, 0
out-of-order, 0 invalid, 0 dup, of 12800 total
Thread 3 Second 8081717 : 12800 frames : #0--#12799 : 0 lost, 0
out-of-order, 0 invalid, 0 dup, of 12800 total
Thread 5 Second 8081717 : 12800 frames : #0--#12799 : 0 lost, 0
out-of-order, 0 invalid, 0 dup, of 12800 total
Thread 7 Second 8081717 : 12800 frames : #0--#12799 : 0 lost, 0
out-of-order, 0 invalid, 0 dup, of 12800 total
Thread 0 Second 8081717 : 12800 frames : #0--#12799 : 0 lost, 0
out-of-order, 0 invalid, 0 dup, of 12800 total
Thread 2 Second 8081717 : 12800 frames : #0--#12799 : 0 lost, 0
out-of-order, 0 invalid, 0 dup, of 12800 total
Thread 4 Second 8081717 : 12800 frames : #0--#12799 : 0 lost, 0
out-of-order, 0 invalid, 0 dup, of 12800 total
Thread 6 Second 8081717 : 12800 frames : #0--#12799 : 0 lost, 0
out-of-order, 0 invalid, 0 dup, of 12800 total
Threads alignment      : 0[+0] 1[-6] 2[+1] 3[-5] 4[+2] 5[-4] 6[+3]
7[-3] frames

```

## Post-Correlation checks

### Residuals

### FITS completeness (plist)